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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/939,905	09/29/1997	MARK GIJZEN	76.105	4378

7590 02-11-2002

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ARLINGTON, VA 222014714

EXAMINER

MARSCHEL, ARDIN H

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 02/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

08/939,905

Applicant(s)

GIJZEN, MARK

Examiner

Ardin Marschel

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,7-16,18-24 and 26-31 is/are allowed.
- 6) ☒ Claim(s) 3,4,17,25 and 32-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Applicants' arguments, filed 11/13/01, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The title includes a regulatory region and peroxidase only whereas compositions containing claimed DNA, such as host cells and transgenic plants, as well as methods for peroxidase and gene production are also claimed. It is also noted that although the title includes "peroxidase" that no peroxidase per se is claimed. Applicant argues that SEQ ID NOS would be less descriptive than the title as presently set forth. This is acknowledged as well as noting that there was no previous suggestion to amend the title to include SEQ ID NOS. Applicant then admits that claim 1 is directed to defining a peroxidase gene. It is unclear what argument is meant by this acknowledgment that claim 1 defines a peroxidase gene. This appears to be an agreement with the above indication that the title is not directed to the actual claimed subject matter. It is believed that a peroxidase gene is a different entity, chemically as well as functionally, as compared to peroxidase

which is believed to be an enzyme. Thus, the title still seems clearly to lack correspondence with the actual claimed subject matter.

Applicant is hereby notified that the required timing for the correction of drawings has changed. See the last 6 lines on the sheet which is attached entitled "Attachment for PTO-948 (Rev. 03/01 or earlier)". Due to the above notification Applicant is required to submit drawing corrections within the time period set for responding to this Office action. Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office action.

This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR § 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR § 1.821 through 1.825 because the submission of the computer readable form etc., filed 11/13/01, still is incomplete regarding containing all sequences which are instantly disclosed and fall under these rules. A sequence which does not have a SEQ ID NO. etc. of this type is present in the specification on page 25, line 19. Applicant is required to submit an amendment which enters a SEQ ID NO. at said sequence, a new computer readable form sequence listing, paper copy for the specification and

statements under 37 CFR § 1.821(f) and (g). Failure to respond to this requirement may result in abandonment of the instant application or a notice of a failure to fully respond to this Office action.

Claims 32-37 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 32-37 cite specific nucleotide segments which have not been found as filed. Applicant also has not pointed to written support as filed for these specific segments such as nucleotides 1524 - 1610 of SEQ ID NO: 2. These claims therefore contain NEW MATTER. This rejection is necessitated by amendment.

Claims 3, 4, 17, and 25 are rejected, as discussed below, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3, 4, 17, and 25 have been amended so as to require the claimed DNA molecule practiced therein to comprise a nucleotide sequence "defined by" specific nucleotides in SEQ ID NO: 2. This causes these claims to be vague and indefinite as to what is meant by "defined by". No definition of this phrase has been found as filed by which to clearly understand what is meant

thereby. Applicant did not cite limitations with clear meaning such as "consisting of" or "comprising" or "containing", but rather cited "defined by". This may be interpreted as broadening the required sequence to be homologous to some percentage such that defined hybridization occurs to a complement thus defining a nucleotide sequence. Alternatively, the required nucleotide sequence may exactly contain the cited nucleotides, but this is not the present claim wording. Clarification of the metes and bounds of what "defined by" indicates in these claims or amending to clarify is needed. This rejection is necessitated by amendment.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3 and 4 are rejected under 35 U.S.C. § 102(a) as being clearly anticipated by Huangpu et al.

This rejection is reiterated and maintained from the previous office action, mailed 9/14/00, as necessitated by

amendment. It is noted that applicant has amended claims 3 and 4 with the "defined by" phrase, but that as discussed above this phrase is vague and indefinite that thus reasonably includes optionally the homologous sequence cited below as a match as being "defined by" the homology to instant SEQ ID NO: 1.

A homologous sequence match between instant SEQ ID NO: 1 and the seed coat peroxidase sequence of Huangpu et al. is repeated below. This match result is given below as follows:

DEFINITION Glycine max seed coat peroxidase isozyme (SPOD4.1) mRNA, partial CDS.

ACCESSION U41657

NID g1125103

KEYWORDS .

SOURCE soybean strain=Williams 82Highly.

ORGANISM Glycine max  
Eukaryotae; mitochondrial eukaryotes; Viridiplantae;  
Charophyta/Embryophyta group; Embryophyta; Magnoliophyta;  
Magnoliopsida; Rutanae; Sapindales; Fabaceae; Papilionoideae;  
Glycine.

REFERENCE 1 (bases 1 to 1031)

AUTHORS Huangpu,J., Graham,M.C. and Graham,J.S.

TITLE Cloning of a soybean cDNA (Accession No. U41657) encoding the abundant anionic seed coat peroxidase (PGR95-136)

JOURNAL Plant Physiol. 110, 714 (1996)

REFERENCE 2 (bases 1 to 1031)

AUTHORS Huangpu,J., Graham,M.C. and Graham,J.S.

TITLE Direct Submission

JOURNAL Submitted (30-NOV-1995) John S. Graham, Biological Sciences, Bowling Green State University, Life Sciences Building, Bowling Green, OH 43403-0212, USA

FEATURES Location/Qualifiers

source 1. .1031  
/organism="Glycine max"  
/strain="Williams 82Highly"  
/db\_xref="taxon:3847"

gene 1. .852  
/gene="SPOD4.1"

CDS <1. .852  
/gene="SPOD4.1"  
/EC\_number="1.11.1.7"

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/note="H2O2 oxidoreductase"
/codon_start=1
/product="seed coat peroxidase isozyme"
/db_xref="PID:g1125104"
/translation="FHDCFVQGCDGSVLLNNTDTIESEQDALPNINSIRGLDVVNDIK
TAVENSCPDTVSCADILAIAAEIASVAGRRSGWPVPLGRRDSL TANRTL ANQNLPAPF
FNLTQLKASFAVQGLNTLDLVTLSGGHTSGRAR CSTF INRLYNFSNTGLIHLDTTYLE
VLRARCPQ NATGDNLTNLDLSTPDQFDNRYYSNLLQLNGLLQSDQERFSTPGADTIPL
SIASANQNTFFSNFRVSMI KMGNIGVLTGDEGEIRLQCNFVNGDSFGLASVASKDAKQ
KLVAQSK"

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Query Match 74.1%; Score 922; DB 19; Length 1031;  
Best Local Similarity 97.9%; Pred. No. 0.00e+00;  
Matches 1004; Conservative 0; Mismatches 10; Indels 12; Gaps 9;

Db	1	TTTCATGATTGCTTTGTTCAAGGTTGTGATGGATCAGTTT	TTACTGAACAACACTGATACA	60
Qy	199	TTTCATGATTGCTTTGTTCAAGGTTGTGATGGATCAGTTT	TGCTGAACAACACTGATACA	258

Db 61 ATAGAAAGCGAGCAAGATGCACTTCCAAATATCAACTCAATAAGAGGATTGGACGTTGTC 120

Qy 259 ATAGAAAGCGAGCAAGATGCACTTCCAAATATCAACTCAATAAGAGGATTGGACGTTGTC 318

Db 121 AATGACATCAAGACAGCGGTGGAAAATAGTTGTCCAGACACAGTTTCTTGTGCTGATATT 180

Qy 319 AATGACATCAAGACAGCGGTGGAAAATAGTTGTCCAGACACAGTTTCTTGTGCTGATATT 378

Db 181 CTTGCTATTGCAGCTGAAATAGCTTCTGTTGCTGGGAGGAGGTC-AGGATGGCCAGTTCC 239

Qy 379 CTTGCTATTGCAGCTGAAATAGCTTCTGTT-CTGGGAGGAGGTCCAGGATGGCCAGTTCC 437

Db 240 ATTAGGAAGAAGGGACAGCTTAACAGCAAACCGAACCTTGCAAATCAAAACCTTCCAGC 299

Qy 438 ATTAGGAAGAAGGGACAGCTTAACAGCAAACCGAACCTTGCAAATCAAAACCTTCCAGC 497



Db 300 ACCTTTCTTCAACCTCACTCAACTTAAAGCTTCCTTTGCTGTTCAAGGTCTCAACACCCT 359  
Qy 498 ACCTTTCTTCAACCTCACTCAACTTAAAGCTTCCTTTGCTGTTCAAGGTCTCAACACCCT 557

Db 360 TGATTTAGTTACACTCTCAGGTGGTCATACGTCTGGAAGAGCTCGGTGCAGTACATTCAT 419  
Qy 558 TGATTTAGTTACACTCTCAGGTGGTCATACGTCTGGAAGAGCTCGGTGCAGTACATTCAT 617

Db 420 AAACCGATTATACAACCTCAGCAACACTGGA- - - -CTGATCCA-CT-TGGACACAACATA 473  
Qy 618 AAACCGATTATACAACCTCAGCAACACTGGAACCCTGATCCAACCTCTGAACACAACATA 677

Db 474 CTTAGAAGTATTGCGTGCAAGATGCCCCCAGAATGCAACTGGGGATAACCTCACCAATTT 533  
Qy 678 CTTAGAAGTATTGCGTGCAAGATGCCCCCAGAATGCAACTGGGGATAACCTCACCAATTT 737

Db 534 GGACCTGAGCACACCTGATCAATTTGACAACAGATACTACTCCAATCTTCTGCAGCTCAA 593  
Qy 738 GGACCTGAGCACACCTGATCAATTTGACAACAGATACTACTCCAATCTTCTGCAGCTCAA 797

Db 594 TGGCTTACTTCAGAGTGACCAAGAACGTTTCTCCACTCCTGGTGCTGATACCATTCC-AT 652  
Qy 798 TGGCTTACTTCAGAGTGACCAAGAACCTTTTCTCCACTCCTGGTGCTGATACCATTCCCAT 857

Db 653 TGTCAATAGCTTCAGC-G-AACCAGAATACTTTCTTTTCCAACCTTTAGAGTTTCAATGAT 710  
Qy 858 TGTCAATAGCTTCAGCAGTAACCAGAATACTTTCTTTTCCAACCTTTAGAGTTTCAATGAT 917

Db 711 AAAAATGGGTAATATTGGAGTGCTGACTGGGGATGAAGGAGAAATTCGCTTGCAATGTAA 770  
Qy 918 AAAAATGGGTAATATTGGAGTGCTGACTGGGGATGAAGGAGAAATTCGCTTGCAATGTAA 977

Db	771	TTTTGTGAATGGAGACTCGTTTGGATTAGCTAGTGTGGCGTCCAAAGATGCTAAACAAAA	830
Qy	978	TTTTGTGAATGGAGACTCGTTTGGATTAGCTAGTGTGGCGTCCAAAGATGCTAAACAAAA	1037
Db	831	GCTTGTTGCTCAATCTAAATAAACCAATAATTAATGGGGATGTGCATGCTAGCTACGATG	890
Qy	1038	GCTTGTTGCTCAATCTAAATAAACCAATAATTAATGGGGATGTGCATGCTAGCTAGCATG	1097
Db	891	TAAAGGCAAATTAGGTTG-AAACCTCTTTGCTAGCTATATTGAAATAAACCAAAGGAGTA	949
Qy	1098	TAAAGGCAAATTAGGTTGTAAACCTCTTTGCTAGCTATATTGAAATAAACCAAAGGAGTA	1157
Db	950	GTGTCGATGTCAATTCGATTTTGCCATGTACCTCTTGGAATATTATGTAATAATTATTTG	1009
Qy	1158	GTGTGCATGTCAATTCGATTTTGCCATGTACCTCTTGGAATATTATGTAATAATTATTTG	1217
Db	1010	AATCTC	1015
Qy	1218	AATCTC	1223

The sequence of the reference is labeled as Db and the majority of the bases in instant SEQ ID NO: 1 is labeled as Qy.

Mismatches are shown by the symbol "|" between the sequences.

This alignment results in supplying evidence that the peroxidase sequence of the reference matches 1015 bases minus the mismatches of which there are 22. This equals 993 bases that match in the alignment. Instant SEQ ID NO: 1 is 1244 bases long. A 993 base matching sequence is 79.8% sequence matching or homology or sequence identity. It is noted that within the partial, albeit the majority thereof, coding sequence match as given above the

matching is 993 bases out of 1015 which is 97.8%. Huangpu et al. disclose the cloning of a partial mRNA into cDNA and discuss certain aspects of the sequencing results as discussed in the citation. It is noted that the instant SEQ ID NO: 2 is longer than instant SEQ ID NO: 1 and is genomic in nature. Thus, for comparing the sequence of the reference to SEQ ID NO: 2 the percentage sequence match is 993 of 4700 or 21.1%. Although this is a lesser percentage than the comparison to instant SEQ ID NO: 1 the match covers the clear majority of the coding sequence which is reasonably interpreted as the most important segment in SEQ ID NO: 2. If one reasonably interprets that the substantial homology may utilize the reference sequence then the match is 97.8% which is "defined by" and anticipates instant claims 3 and 4. A thorough consideration of the instant specification has failed to reveal any specific definition of what is meant by the limitation "defined by" and thus may be interpreted as is reasonable as given above. This supplies evidence that a substantially homologous DNA molecule was known by others in the prior art thus supporting this rejection under 35 U.S.C. § 102(a) as required in instant claims 3 and 4.

Claims 3 and 4 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by the Sigma Chemical Company 1990 Catalog.

This rejection is reiterated and maintained from the

previous office action, mailed 9/14/00, as necessitated by amendment. It is noted that applicant has amended claims 3 and 4 with the "defined by" phrase, but that as discussed above this phrase is vague and indefinite that thus reasonably includes optionally the homologous sequence cited below as a match as being "defined by" the homology to instant SEQ ID NO: 1.

Claims 1, 2, 7-16, 18-24, and 26-31 are allowed.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

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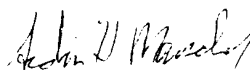
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

February 8, 2002

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER